Amendments to the Claims:

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

Claim 1 (original): A method for assaying for an immunological response in a mammal comprising: (a) administering to the mammal a chemical probe for reactive oxygen species; (b) obtaining a sample from the mammal; and (c) analyzing the sample for an oxidation product of the chemical probe.

Claim 2 (currently amended): The method of ~~statement~~ claim 1, wherein the chemical probe is an alkene that can be oxidized and that generates a detectable oxidation product.

Claim 3 (currently amended): The method of ~~statement~~ claim 1, wherein the chemical probe is 3-vinyl-benzoic acid, 4-vinyl-benzoic acid, indigo carmine, stilbene, or cholesterol.

Claim 4 (currently amended): The method of ~~statement~~ claim 1, wherein the reactive oxygen species is an antibody-generated oxygen species.

Claim 5 (currently amended): The method of ~~statement~~ claim 1, wherein the reactive oxygen species is a superoxide radical, hydroxyl radical, peroxyl radical or hydrogen peroxide.

Claim 6 (currently amended): The method of ~~statement~~ claim 1, wherein the reactive oxygen species is ozone or any chemical species that possesses the chemical signature of ozone.

Claim 7 (currently amended): The method of ~~statement~~ claim 1, wherein the sample is a bodily fluid.

Claim 8 (presently amended): The method of ~~statement~~ claim 5, wherein the bodily fluid is whole blood, serum, plasma, synovial fluid, lymph, urine, saliva, mucus or tears.

Claim 9 (currently amended): The method of ~~statement~~ claim 1, wherein the sample is a tissue sample.

Claim 10 (currently amended): The method of ~~statement~~ claim 1, wherein the oxidation product of the chemical probe is detected by high pressure liquid chromatography, mass spectrometry, ultraviolet light spectrophotometry, visible light spectrophotometry, liquid

chromatography, gas spectrometry, or liquid chromatography linked mass spectrometry.

Claim 11 (original): A method for assaying for an inflammatory response in a mammal comprising: (a) administering to the mammal a chemical probe for reactive oxygen species; (b) obtaining a sample from the mammal; and (c) analyzing the sample for an oxidation product of the chemical probe.

Claim 12 (currently amended): The method of ~~statement~~ claim 11, wherein the chemical probe is an alkene that can be oxidized and that generates a detectable oxidation product.

Claim 13 (currently amended): The method of ~~statement~~ claim 11, wherein the chemical probe is 3-vinyl-benzoic acid, 4-vinyl-benzoic acid, indigo carmine, stilbene, or cholesterol.

Claim 14 (currently amended): The method of ~~statement~~ claim 11, wherein the reactive oxygen species is an antibody-generated oxygen species.

Claim 15 (currently amended): The method of ~~statement~~ claim 11, wherein the reactive oxygen species is a superoxide radical, hydroxyl radical, peroxyl radical or hydrogen peroxide.

Claim 16 (currently amended): The method of ~~statement~~ claim 11, wherein the reactive oxygen species is ozone or a chemical species that possesses the chemical signature of ozone.

Claim 17 (currently amended): The method of ~~statement~~ claim 11, wherein the sample is a bodily fluid.

Claim 18 (currently amended): The method of ~~statement~~ claim 17, wherein the bodily fluid is whole blood, serum, plasma, synovial fluid, lymph, urine, saliva, mucus or tears.

Claim 19 (currently amended): The method of ~~statement~~ claim 11, wherein the sample is a tissue sample.

Claim 20 (currently amended): The method of ~~statement~~ claim 11, wherein the oxidation product of the chemical probe is detected by high pressure liquid chromatography, mass spectrometry, ultraviolet light spectrophotometry, visible light spectrophotometry, liquid chromatography, gas spectrometry, or liquid chromatography linked mass spectrometry.

Claim 21 (original): An in vitro assay for neutrophil activity comprising: (a) obtaining a neutrophil sample from a mammal; (b) activating neutrophils in the neutrophil sample; and (c) observing whether a reactive oxygen species can be detected in the neutrophil sample.

Claim 22 (currently amended): The method of ~~statement~~ claim 21, wherein the reactive oxygen species is a neutrophil-generated oxygen species.

Claim 23 (currently amended): The method of ~~statement~~ claim 21, wherein the reactive oxygen species is an antibody-generated oxygen species.

Claim 24 (currently amended): The method of ~~statement~~ claim 21, wherein the reactive oxygen species is a superoxide radical, hydroxyl radical, peroxyl radical or hydrogen peroxide.

Claim 25 (currently amended): The method of ~~statement~~ claim 21, wherein the reactive oxygen species is ozone or a chemical species that possesses the chemical signature of ozone.

Claim 26 (currently amended): The method of ~~statement~~ claim 21, wherein the reactive oxygen species is detected with a chemical probe.

Claim 27 (currently amended): The method of ~~statement~~ claim 26, wherein the chemical probe is an alkene that can be oxidized and that generates a detectable oxidation product.

Claim 28 ((currently amended): The method of ~~statement~~ claim 26, wherein the chemical probe is 3-vinyl-benzoic acid, 4-vinyl-benzoic acid, indigo carmine, stilbene, or cholesterol.

Claim 29 (currently amended): The method of ~~statement~~ claim 27, wherein an oxidation product of the chemical probe is detected in order to determine whether a reactive oxygen species is present in the neutrophil sample.

Claim 30 (currently amended): The method of ~~statement~~ claim 29, wherein the oxidation product is detected by high pressure liquid chromatography, mass spectrometry, ultraviolet light spectrophotometry, visible light spectrophotometry, liquid chromatography, gas spectrometry, or liquid chromatography linked mass spectrometry.

Claim 31 (original): A method for identifying an agent that can modulate neutrophil activity comprising: (a) obtaining a neutrophil sample from a mammal; (b) exposing the neutrophil

sample to a test agent; (c) activating neutrophils in the neutrophil sample; and (d) quantifying an amount of reactive oxygen species generated by the neutrophil sample.

Claim 32 (currently amended): The method of ~~statement~~ claim 31, wherein the method further comprises quantifying an amount of reactive oxygen species generated by a neutrophil sample that has not been exposed to the test agent but is from the same mammal.

Claim 33 (currently amended): The method of ~~statement~~ claim 31, wherein the neutrophil sample is a bodily fluid.

Claim 34 (currently amended): The method of ~~statement~~ claim 33, wherein the bodily fluid is whole blood, synovial fluid or lymph.

Claim 35 (currently amended): The method of ~~statement~~ claim 31, wherein the neutrophil sample is a tissue sample.

Claim 36 (currently amended): The method of ~~statement~~ claim 31, wherein the reactive oxygen species is a neutrophil-generated oxygen species.

Claim 37 (currently amended): The method of ~~statement~~ claim 31, wherein the reactive oxygen species is an antibody-generated oxygen species.

Claim 38 (currently amended): The method of ~~statement~~ claim 31, wherein the reactive oxygen species is a superoxide radical, hydroxyl radical, peroxyl radical or hydrogen peroxide.

Claim 39 (currently amended): The method of ~~statement~~ claim 31, wherein the reactive oxygen species is ozone or a chemical species that possesses the chemical signature of ozone.

Claim 40 (currently amended): The method of ~~statement~~ claim 31, wherein the amount of reactive oxygen species is quantified with a chemical probe.

Claim 41 (currently amended): The method of ~~statement~~ claim 40, wherein the chemical probe is an alkene that can be oxidized and that generates a detectable oxidation product.

Claim 42 (currently amended): The method of ~~statement~~ claim 40, wherein the chemical probe is 3-vinyl-benzoic acid, 4-vinyl-benzoic acid, indigo carmine, stilbene, or cholesterol.

Claim 43 (currently amended): The method of ~~statement~~ claim 40, wherein an oxidation product of the chemical probe is quantified.

Claim 44 (currently amended): The method of ~~statement~~ claim 43, wherein the oxidation product is quantified by high pressure liquid chromatography, mass spectrometry, ultraviolet light spectrophotometry, visible light spectrophotometry, liquid chromatography, gas spectrometry, or liquid chromatography linked mass spectrometry.